



UNITED STATES PATENT AND TRADEMARK OFFICE

MN

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/827,527	04/20/2004	Dibyapran Sanyal	200400476-2 (LHGB 1509-49	2969
22879 7590 04/19/2007 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER YAARY, MICHAEL D	
			ART UNIT 2193	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE			MAIL DATE	DELIVERY MODE
3 MONTHS			04/19/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.		Applicant(s)	
	10/827,527		SANYAL, DIBYAPRAN	
	Examiner		Art Unit	
	Michael Yaary		2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/10/2005</u> | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. Claims 1-17 are pending in the application.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 15-17 are rejected under 35 U.S.C. 101 because it is directed to non-statutory subject matter.

(i) As to claim 15, it is directed to a computer program. The claim fails to teach the computer program recorded on an appropriate computer readable medium so as to permit the function of the descriptive material. It is unclear if the program is in executable form, and therefore is interpreted as software per se.

(ii) As to claim 16, the claim is directed to a binary code translator. The claim fails to teach an appropriate computer readable medium or hardware structurally interrelated with the binary code translator. The claim appears to contain software per se, as claimed in the templates, set of data, and routines, thus being interpreted as functional descriptive material lacking the necessary recording medium.

(iii) Claim 17 is rejected for similar reasons as discussed for its respective parent claim, as it fails to present any limitations that resolve the deficiencies of the claim from which it depends.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 15 is rejected under 35 U.S.C. 112, second paragraph because the claim is indefinite.

- (i) It is uncertain whether it is an independent or dependent claim because claim 15 is a "computer program" claim but claim 1 is a "method" claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-4, 7-11, and 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Hughes et al. (hereafter Hughes)(US Pat. 6,519,768).

8. **As to claims 1 and 8**, Hughes discloses identifying a set of target instructions semantically equivalent to a given source instruction (abstract, lines 1-14);

Analyzing the set of target instructions to identify data dependencies in said target instructions (column 2, lines 42-65);

Assigning an identifier to one or more of said target instructions for use by a code analyzer in scheduling the processing of said set of target instructions in accordance with the identified data dependencies (column 3, lines 57-65).

9. **As to claims 2 and 9**, Hughes discloses the set of target instructions is identified in a translation template associated with a given source instruction said template being a component of a translator program for translating instructions in the source format into instructions in the target format (column 1, line 55-column 2, line 19 and column 2, line 66-column 3, line 8).

10. **As to claims 3 and 10**, Hughes discloses the analysis of the target instructions is carried out prior to the compilation of the translation templates into said translator program (abstract lines 2-4 and column 2, line 66-column 3, line 8).

11. **As to claims 4 and 11**, Hughes discloses the identifiers are assigned to said target instructions prior to the compilation of said translator program (column 3, line 57-column 4, line 5).

12. **As to claims 7 and 14**, Hughes discloses each translation template is associated with a corresponding analysis routine for generating said code for scheduling the execution of said translated code (column 2, line 42-column 3, line 20 and column 4, lines 20-30).

13. **As to claim 15**, Hughes discloses a computer program arranged to perform the method of claim 1 (Inherent in column 1, line 49-column 2, line 20 as some sort of software implemented computer program would be needed to perform the method.).

14. **As to claim 16**, claim 16 is rejected for the same reasons as claims 1 and 2 above.

15. **As to claim 17**, Hughes discloses a binary code translator according to claim 16 arranged to operate dynamically at the run time of an application program being emulated (column 3, line 66-column 4, line 5).

Claim Rejections - 35 USC § 103

16. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

17. Claims 5, 6, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hughes in view of Lewis (US Pat. 6,378,066).

Art Unit: 2193

18. **As to claims 5 and 12**, Hughes does not disclose optimizing the translated code for processing in a parallel processing environment.

However, Lewis discloses optimizing the translated code for processing in a parallel processing environment (column 4, lines 8-22).

19. Therefore, it would have been obvious to one of ordinary skill at the time of the invention to modify the teachings of Hughes, by utilizing a parallel processing environment, as taught by Lewis, in order to allow for flexibility and optimization of a translation process.

20. **As to claims 6 and 13**, Lewis discloses data dependencies are represented by a directed acyclic graph and the identifier is arranged to identify said dependency signaling an appropriate edge in the set of target instructions to said code analyzer (column 5, line 66-column 6, line 5).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Yaary whose telephone number is (571) 270-1249. The examiner can normally be reached on Monday-Friday, 8:00 a.m - 5:00 p.m..

Art Unit: 2193

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MY

MY


MENG-AI T. AN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100